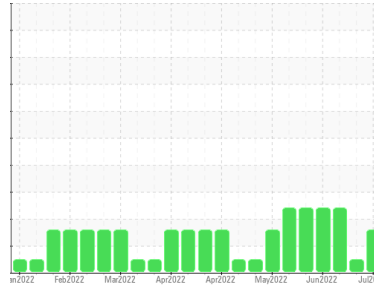




OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
GZJ00403
Component
Biogas Engine
Fluid
PETRO CANADA SENTRON CG 40 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. Elemental level of silicon (Si) above normal.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0699035	WC0699028	WC0699042
Sample Date	Client Info		06 Jul 2022	27 Jun 2022	20 Jun 2022
Machine Age	hrs	Client Info	106901	106739	106574
Oil Age	hrs	Client Info	300	118	1087
Oil Changed	Client Info		Not Chngd	N/A	N/A
Sample Status			ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>45	3	2	10
Chromium	ppm	ASTM D5185m	>2	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		<1	0	<1
Aluminum	ppm	ASTM D5185m	>10	2	2	2
Lead	ppm	ASTM D5185m	>5	<1	<1	<1
Copper	ppm	ASTM D5185m	>14	5	3	▲ 17
Tin	ppm	ASTM D5185m	>13	3	2	6
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	3	3	2
Barium	ppm	ASTM D5185m	1	0	<1	0
Molybdenum	ppm	ASTM D5185m	2	1	<1	1
Manganese	ppm	ASTM D5185m	1	0	<1	<1
Magnesium	ppm	ASTM D5185m	9	10	13	9
Calcium	ppm	ASTM D5185m	2712	2570	2811	2603
Phosphorus	ppm	ASTM D5185m	292	239	284	256
Zinc	ppm	ASTM D5185m	342	297	348	301
Sulfur	ppm	ASTM D5185m	2575	3513	3316	2844

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>200	▲ 222	96	▲ 497
Sodium	ppm	ASTM D5185m		0	<1	4
Potassium	ppm	ASTM D5185m	>20	1	0	0
Fuel	%	ASTM D3524	>4.0	0.4	0.2	0.2

INFRA-RED

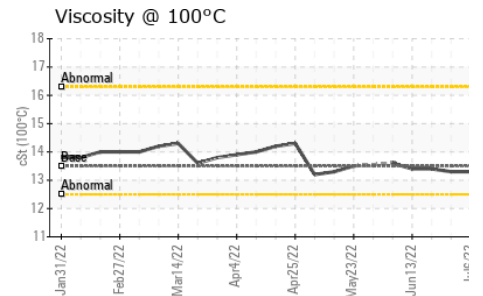
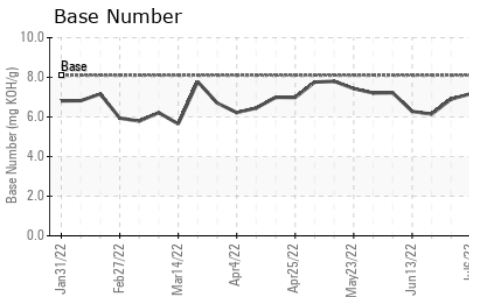
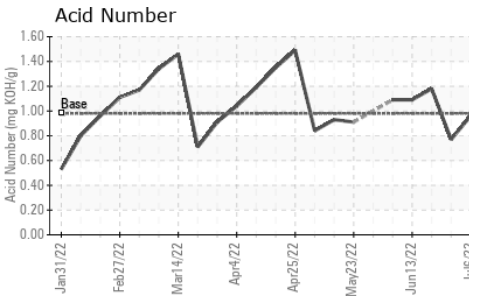
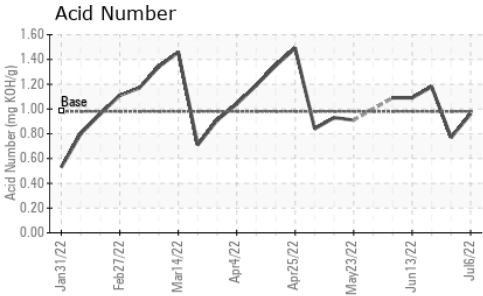
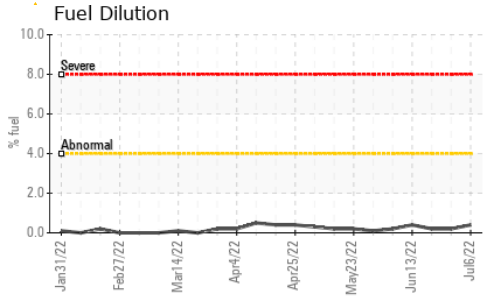
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	4.0	3.8	4.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.1	14.7	19.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	7.6	7.4	8.7
Acid Number (AN)	mg KOH/g	ASTM D8045	0.98	0.96	0.77	1.18
Base Number (BN)	mg KOH/g	ASTM D2896	8.1	7.17	6.90	6.14



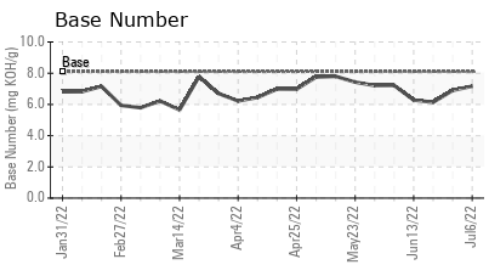
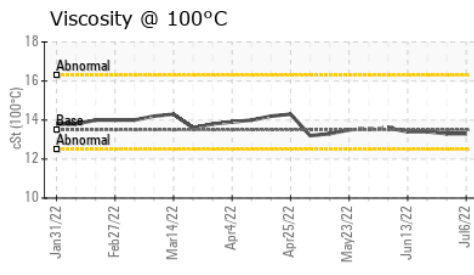
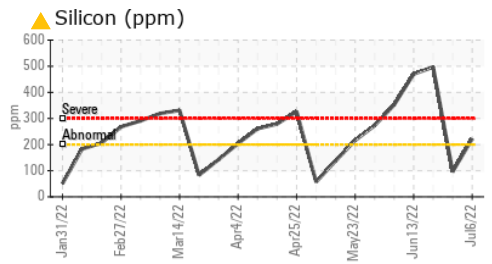
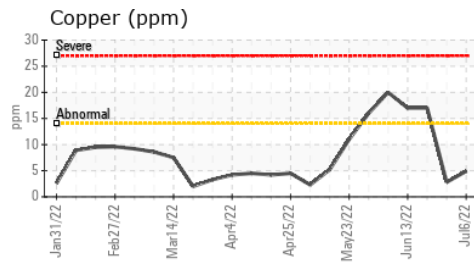
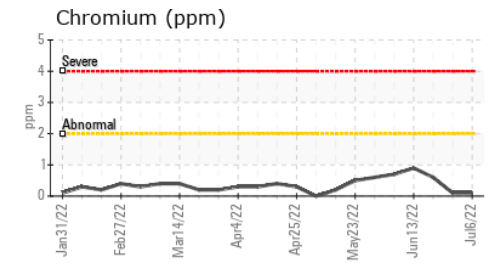
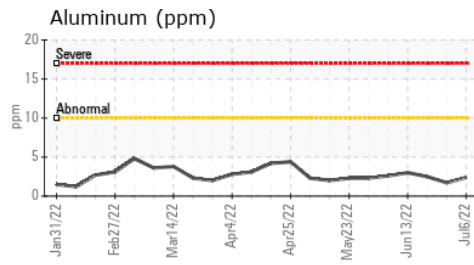
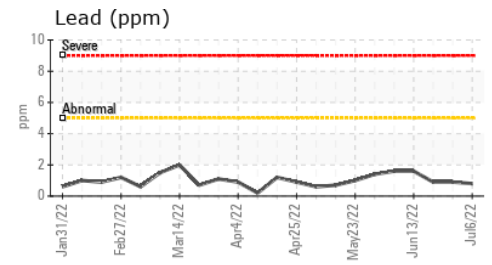
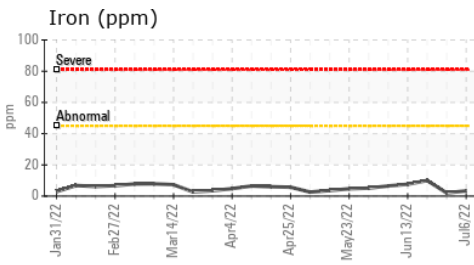
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.5	13.3	13.4

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0699035 **Received** : 08 Jul 2022
Lab Number : 05586899 **Tested** : 12 Jul 2022
Unique Number : 10046346 **Diagnosed** : 12 Jul 2022 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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 74265 Bombing Range Road
 Boardman, OR
 US 97818
 Contact: Blain Middleton
 bmiddleton@archaea.energy
 T: (541)481-3232
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)